

REMARKS

Reexamination and reconsideration of the claims 1-5, 7-14, 18-26, 28-35, 39-49, 52, 53, 56, 57, 59, and 60, and consideration of new claims 61 and 62 are respectfully requested. Claims 6, 15-17, 27, 36-38, 50, 51, 54, 55, and 58 are withdrawn, but are suitable for rejoinder upon allowance of the generic claims. Additionally, Applicants acknowledge and appreciate the Examiner's consideration of the Information Disclosure Statement.

The disclosure was objected to for an informality. Any informality that may have existed has been corrected. Withdrawal of the objection to the disclosure is respectfully requested.

Claims 18, 39, and 59 were rejected under 35 U.S.C. sec. 112, second paragraph, as failing to set forth the subject matter which Applicants regard as their invention. The amendment of claims 18, 39, and 59 is not an admission that the art of record teaches, discloses, or otherwise suggests the features of the claims; rather, the claims were amended to merely correct antecedent basis.

Regarding the rejection, p. 2 of the Office Action, in part, states:

...applicant has stated the invention is an optical tube assembly having a dry insert, and this statement indicates that the invention is different from what is defined in the claim(s) because a MAC number of an optical waveguide is a property of the optical waveguide. Page 5, lines 26-33 explains that many different types of optical waveguides can be used with the instant invention "an optical tube assembly" such as a plurality of loose optical waveguides, a ribbon stack or a bundled optical waveguides. Thus, the optical waveguide having specific value of MAC number recited in claims 18, 39, and 59 are already existing element which can be used with the instant invention."

Applicants disagree. Claim 18 is directed to an optical tube assembly as recited in claim 1 wherein the at least one optical waveguide is a portion of a ribbon stack and at least one

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of the corner optical waveguides of the ribbon stack has a MAC number of about 7.35 or less. Simply stated, claim 18 recites further limitations beyond independent claim 1 and sets forth subject matter that Applicants believe is patentable. In other words, claim 18 is directed to an optical tube assembly having a ribbon stack where at least one of the corner optical waveguides of the stack is selected with a given MAC number, rather than having an optical fiber with a random MAC number in the corner position. Pages 6-7, lines 26-21 of the present application explicitly disclose the concept of selecting a corner optical waveguide with a given MAC number. Likewise, dependent claims 39 and 59 recite similar features that set forth patentable subject matter of the present invention. Withdrawal of the sec. 112 rejection, second paragraph, of claims 18, 39, and 59 is respectfully requested.

Claims 2, 3, 10-14, 21, 23, 24, 29-33, 42, 43, 45, 48, 49, and 53 were rejected under 35 U.S.C. sec. 112, second paragraph, as being indefinite. Regarding the rejection, p. 3 of the Office Action, in part, states:

These claims recite a percentage of compression of the dry insert, a value of a normalized pull-out force of an optical waveguide, and an optical attenuation value. It is not clear how the values of compression, normalized pull-out force and optical attenuation are achieved since claims do not explain the structural size and relationship of the elements of the optical tube.

Again, Applicants disagree. Specifically, regarding claims 2, 3, 23, 24, 48 and 49, the present application explicitly goes through an example of how a percentage of compression of the dry insert is calculated. See p. 9-10, 11. 29-11 of the present application. The skilled artisan would have understood that the claims are generic to geometry since numerous geometric combinations can yield the same percentage of compression of the dry insert. Thus, claims 2, 3, 23, 24, 48 and 49 are definite.

Regarding claims 14, 33, and 53, they are definite because they are directed to the uncompressed height  $h$  of the dry insert as shown in Fig. 2.

Claims 10-13, 29-32, 42, 43, and 45 are directed to, *inter alia*, a normalized pull-out force for at least one optical waveguide or a ribbon. The specification of the present application explicitly discusses how the pullout force is measured and calculated. See p. 12-14, 11. 29-15 of the present application. The skilled artisan would have understood that numerous different geometries and/or cable constructions can have the same or similar normalized pull-out forces. For instance, the pull-out force can be influenced by the dimensions of a ribbon stack or optical bundle configuration disposed within the tube assembly. Additionally, the structural relationship among the elements is recited in claims 1, 21, and 42. Thus, claims 10-13, 29-32, 42, 43, and 45 are definite.

Claim 21 is directed to, *inter alia*, at least one dry insert having at least two laminated layers surrounding the at least one optical waveguide thereby forming a core disposed within the tube, wherein the at least one dry insert acts to couple the at least one optical waveguide to the interior surface of the tube while cushioning the at least one optical waveguide, thereby maintaining an optical attenuation below about 0.4 dB/km at a reference wavelength of 1310 nm. The amendment of claim 21 is not an admission that the art of record teaches, discloses, or otherwise suggests the features of the claim, but is made to improve the understanding and readability of the same. Examples of claim 21 are shown in Figs. 1 and 1a. Moreover, the skilled artisan would have understood the relationship among the elements and the optical attenuation limitation, thus claim 21 is definite.

For at least the reasons stated, withdrawal of the sec. 112, second paragraph, rejection of claims 2, 3, 10-14, 21, 23, 24,

29-33, 42, 43, 45, 48, 49, and 53 is warranted and respectfully requested.

With respect to claim 3, the antecedent basis for "the foam tape" has been corrected. The amendment of claim 3 is to merely correct antecedent basis and is not an admission that the art of record teaches, discloses, or otherwise suggest the features of the claim. Withdrawal of the sec. 112, second paragraph, rejection of claim 3 is warranted.

Claims 1-5, 7-14, 18-26, 28-35, 39-49, 52, 53, 56, 57, 59, and 60 were rejected under 35 U.S.C. sec. 103(a) applying U.S. Pat. No. 6,122,424, (the '424 patent) in view of U.S. Pat. Nos. 5,838,863 (the '863 patent) and 6,377,738 (the '738 patent). For patents to be applicable under sec. 103(a), the combination of teachings must, *inter alia*, expressly or inherently, teach, disclose, or otherwise suggest each and every feature of the claimed invention. Additionally, motivation and suggestion to combine the teachings must be present.

The Office Action states it would have been obvious "...to modify the optical tube assembly taught by Bringuier (the '424 patent) such that it would have water-swellable tape as taught by Anderson [the '738 patent] and polyurethane foam layer as taught by Fujiura [the '863 patent] to protect the optical tube from moisture." See p. 4 of the Office Action dated August 24, 2004.

First, it is respectfully submitted that the skilled artisan would not have been motivated or taken a suggestion to make the purported modification because doing so would destroy the flame inhibiting capability of the cable of the '424 patent. Without question, the skilled artisan would have understood that the object of the '424 patent is a fiber optic cable that meets flame retardance standards. See Col. 4, ll. 9-25 of the '424 patent. Consequently, the skilled artisan would not have been motivated, nor taken a suggestion, to make the purported modification, thereby rendering the fiber optic cable of the '424 patent

inoperable for inhibiting flame retardance.

Second, the skilled artisan would not have been motivated, nor taken a suggestion, to modify the '424 patent "...to protect the optical tube from moisture..." as stated in the Office Action. See p. 4 of the Office Action dated August 24, 2004. As supported by the objective evidence of record, the '424 patent already teaches protecting the optical tube from moisture. Specifically, cable components 20,30,40 of the '424 patent, among other features, can provide water-blocking capability. See the Abstract of the '424 patent. Simply stated, the skilled artisan would not have been motivated, nor taken a suggestion, to modify the '424 patent as stated in the Office Action because cable components 20,30,40 already provide water-blocking protection.

Additionally, there are other reasons why the skilled artisan would not have been motivated, nor taken a suggestion, to make the purported modification. For instance, the '863 patent teaches sealing a fiber optic cable with a polyurethane resin having fine particles of water absorbent resin homogenously dispersed therein. See Col. 10, 11. 9-19 of the '863 patent. In other words, the polyurethane resin of the '863 patent provides water-blocking. Whereas, the '738 patent teaches a water-swellaable tape 32 radially outward of the buffer tube 12.

Because the '863 patent teaches a polyurethane resin with fine particles of water absorbent resin therein the skilled artisan would not have been motivated to further add the water-swellaable tape 32 of the '738 patent since it would result in a larger cable having additional expense and manufacturing complexity. For at least the reasons stated herein, a *prima facie* case of obviousness with respect to claims 1-60 is lacking. Thus, the withdrawal of the sec. 103(a) rejection of claims 1-60 is warranted and respectfully requested.

As an independent basis, Applicants submit the following regarding the sec. 103(a) rejection of claims 1-60. Assuming

arguendo, that the purported modification is proper, which it is not, the purported modification does not teach, disclose, or otherwise suggest each and every feature of amended independent claim 1. Additionally, the amendment of claim 1 is not an admission that the art of record teaches, discloses, or otherwise suggests the features of the claim, but rather is made to improve the readability and understanding of the claim.

The '424 patent requires discrete cable components 20,30,40 that are disposed radially outward of core tube 14, thereby providing the flame inhibiting protection. See Fig. 1 and the Abstract of the '424 patent. The purported modification replaces cable components 20,30,40 of the '424 patent with a purported modification of the polyurethane resin 1 of the '863 patent and water swellable tape 32 of the '738 patent, thereby disposing the same radially outward of core tube 14. Thus, the purported modification does not teach, disclose, or otherwise suggest each and every limitation of independent claim 1.

Regarding dependent claims 18 and 19, the subject matter recited therein is not addressed in the rejection; thus, the rejection of these claims is improper and should be withdrawn.

Since the purported modification fails to teach, disclose, or otherwise suggest each and every feature of independent claim 1 or dependent claims 2-20 a *prima facie* case of obviousness is lacking. For at least the reasons stated, the withdrawal of the sec. 103(a) rejection of claims 1-20 is warranted and respectfully requested.

Likewise, it is also respectfully submitted that the purported modification does not teach each and every feature of independent claim 21. Simply stated, the purported modification does not teach, disclose, or otherwise suggest each and every feature of claim 21.

The Office Actions fails to provide any objective evidence of record that purported modification teaches, discloses, or

otherwise suggests a dry insert having at least two laminated layers generally surrounding the at least one optical waveguide, thereby forming a core disposed within the tube where the dry insert acts to couple the waveguide to the interior surface of the tube. Thus, the purported modification does not teach each and every feature of independent claim 21.

Regarding dependent claims 39 and 40, the subject matter recited therein is not addressed in the rejection; thus, the rejection of these claims is improper and should be withdrawn. For at least these reasons stated above, a *prima facie* case of obviousness with respect to independent claim 21 and dependent claims 22-41 is lacking. Thus, the withdrawal of the sec. 103(a) rejection of claims 21-41 is warranted and respectfully requested.

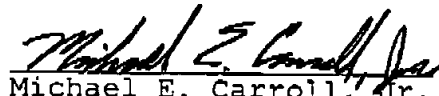
It is also respectively submitted that the purported modification does not teach each and every feature of independent claim 42. Additionally, the amendment of claim 42 is not an admission that the art of record teaches, discloses, or otherwise suggests the features of the claim; instead, the amendment merely further explains the claim. Again, no objective evidence of record is cited that the purported modification teaches each and every feature of claim 42. The purported modification requires that the optical fiber ribbon stack 12 of the '424 patent is disposed within a water blocking material 13 such as a conventional grease. The optical ribbons of the purported modification would be pulled from a conventional core having water blocking material 13 such as grease within core tube 14. Because the purported modification does not teach, disclose, or otherwise suggest each and every feature of claim 42; a *prima facie* case of obviousness is lacking with respect to independent claims 42 and dependent claims 43-60. Thus, the withdrawal of the sec. 103(a) rejection of claims 42-60 is warranted and respectfully requested.

Thirty-six (\$36.00) dollars is believed due in connection with this Reply for two dependant claims in excess of twenty. If any other fees are due in connection with this Reply, please charge any fees, or credit any overpayment, to Deposit Account Number 19-2167.

Allowance of all pending claims is believed to be warranted and is respectfully requested.

The Examiner is welcomed to telephone the undersigned to discuss the merits of this patent application.

Respectfully submitted,

  
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